

## **Above the dam: salmon colonization in the Cedar River, Washington**

*Joseph Anderson\*, Thomas Quinn, University of Washington*

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Pacific salmon (*Oncorhynchus spp.*) have repeatedly exploited open habitat following glacial retreat and artificial introductions, yet relatively little is known about the critical first stages of population expansion. Modification of a dam on the Cedar River, Washington, provided a rare opportunity to study the re-colonization process after salmon had been excluded from the habitat for over a century. In fall 2003 and 2004, adult coho salmon (*O. kisutch*) and chinook salmon (*O. tshawytscha*) were counted, measured, and sampled for DNA as they bypassed the dam. Research focused on coho salmon, as radio telemetry was used to determine the extent of colonist exploration and test the hypothesis that most coho would spawn in tributaries of the mainstem Cedar River. Forty-seven coho accessed the new habitat in the initial season of fish passage, while counts of migrating coho more than doubled the following year. Telemetry results revealed three interesting observations regarding adult coho behavior. First, contrary to our predictions, coho salmon tended to spawn in the mainstem rather than tributaries. Second, a number of fish, primarily males, moved downstream past the dam after some time upriver. Finally, males explored the area above the dam more extensively than females, a result that is interpreted through inter-sexual differences in reproductive behavior.